UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,463	12/14/2001	Hugh L. Brunk	P0500	5273

			EXAMINER
23735	7590	11/30/2004	LAVIN, CHRISTOPHER L

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ART UNIT	PAPER NUMBER
2621	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/017,463	BRUNK, HUGH L.
	Examiner	Art Unit
	Christopher L Lavin	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12/14/04*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1 - 8 rejected under 35 U.S.C. 102(e) as being anticipated by Chen

(6,233,347).

3.   In regards to claim 1, Chen discloses a method of digital watermarking using

quantization index modulation in figure 3A. Chen receives samples of the media signal

at 101A; the host signal is the media signal to be watermarked. Chen then receives the

watermark payload at 102A. Chen discloses an information embedder (201) that

embeds the messages by quantizing samples (324) of the media signal with multi-

dimensional space filling quantizers corresponding to values of the messages being

embedded. The embedding process is further explained between column 24, line 41

and column 25, line 23. Finally, the paragraph starting at column 37, line 21 Chen notes

that "designator 320 includes dimensionality determiner 710 that determines the number

of co-processes host-signal components into which one or more watermark-signal

values are to be embedded."

4.   In regards to claim 2, Chen discloses in the paragraph starting at column 40, line

53 that lattice vector quantizes can be used for space filling.   "Another known technique

that is particularly well suited for use with dithered quantizers is commonly referred to as

'lattice quantization'".

5.   In regards to claim 3, Chen discloses in the paragraph starting at column 40, line

40 that trellis code quantizes can be used for space filling. "One known technique for

providing highly regularized shapes of quantization intervals is referred to as 'trellis

coded quantization'".

6.   In regards to claim 4, Chen discloses in the paragraph starting at column 16, line

42 that "Embedder-extractor 200 could be implemented in the 'C' or 'C++' programming

languages [...]. If implemented in software, embedder-extractor 200 may be loaded into

memory storage devices." Thus Chen discloses a computer readable medium

comprising instructions for performing the method of claim 1.

7.   In regards to claim 5, Chen discloses a method of decoding digital watermarks in

figure 9 with further explanation in the paragraph starting at column 49, line 40. The

method receives the media signal (105). In the information extractor (202) the ensemble

replicator (920) quantizes the samples with multi-dimensional space filling quantizers

corresponding to possible message values. This is further explained in the paragraph

starting at column 51, line 53.   "Ensemble replicator 920 replicates the ensemble of

dithered quantizers and dithered quantization that information embedder 201 generated.

[...] The quantizer specifier typically includes information related to the dimension 712

applied by dimensionality determiner 710 to each group of co-processed host-signal

components, and to distribution parameters 732 determined by distribution determiner 730 with respect to each group of co-processed host-signal components". Returning to figure 9 the watermarked message is extracted (106) from the media signal, this is further explained in the paragraph starting at column 49, line 40. "Information extractor 202 further includes point decoder 930 that, for each co-processed group of components of the watermark signal, determines the closest dithered quantization value to selected values of the host signal, thereby reconstructing the watermark signal."

8.   In regards to claim 6, as shown in the rejection of claim 5 the "ensemble replicator (920) replicates the dithered quantizers" which was performed by the information embedder. Chen discloses in the paragraph starting at column 40, line 53 that lattice vector quantizes can be used for space filling in the information embedder. "Another known technique that is particularly well suited for use with dithered quantizers is commonly referred to as 'lattice quantization'".

9.   In regards to claim 7, as shown in the rejection of claim 5 the "ensemble replicator (920) replicates the dithered quantizers" which was performed by the information embedder. Chen discloses in the paragraph starting at column 40, line 40 that trellis code quantizes can be used for space filling in the information embedder. "One known technique for providing highly regularized shapes of quantization intervals is referred to as 'trellis coded quantization'".

10.   In regards to claim 8, Chen discloses in the paragraph starting at column 16, line 42 that "Embedder-extractor 200 could be implemented in the 'C' or 'C++' programming languages [...]. If implemented in software, embedder-extractor 200 may be loaded into

memory storage devices." Thus Chen discloses a computer readable medium comprising instructions for performing the method of claim 5.
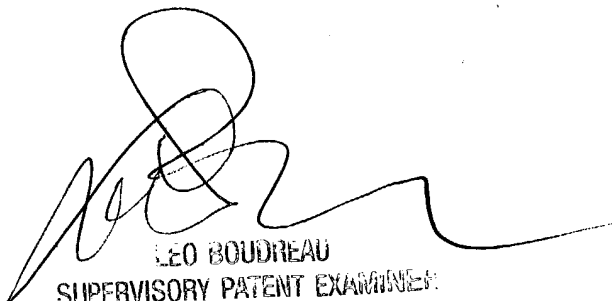
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher L Lavin whose telephone number is 703-306-4220. The examiner can normally be reached on M - F (8:30 - 5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Boudreau can be reached on (703) 305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLL

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